

## Appendix

### Documents

#### [1] Messaging System for Delivering Data in the Form of Portable Message Formats in Between Message Clients

International Patent Application No. PCT/CH 01/00002

#### [2] Developing Publish/Subscribe Applications with iBus

Revision 1.1, Mon May 17 13:58:23 1999 UTC (4 years, 10 months ago) by *silvano*

#### [3] iBus – The Next Generation Software Bus

Revision 1.1, Mon May 17 13:58:23 1999 UTC (4 years, 10 months ago) by *silvano*

### Java Files

These are unaltered extracts from Softwired's CVS.

#### [4] DISPATCH.java

Revision 1.17, Wed Apr 28 13:32:57 1999 UTC (4 years, 10 months ago) by *blklly*  
Branch: MAIN

```
/*
 * $Id: DISPATCH.java,v 1.17 1999/04/28 13:32:57 blklly Exp $
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 * disclose such Confidential Information and shall use it only
 * in accordance with the terms of the license agreement you
 * entered into with Softwired AG.
 */
```

#### [CODE]

```
/*
 * $Log: DISPATCH.java,v $
 * Revision 1.17 1999/04/28 13:32:57 blklly
 * Added to-do note.
 *
 * Revision 1.16 1999/04/09 16:37:35 silvano
 * implemented Channel properties (PR#161429).
 *
 * Revision 1.15 1998/12/15 12:48:39 silvano
 * moved FIFOQueue from internal to util package.
 *
 * Revision 1.14 1998/12/15 09:17:36 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.13 1998/11/18 09:30:03 silvano
 * fixed dnThrottle deadlock bug
 */
```

Exhibit A

\*  
\* Revision 1.12 1998/11/17 10:26:48 silvano  
\* improved throttling to better cope with slow consumers  
\*  
\* Revision 1.11 1998/11/17 10:09:07 tom  
\* Small fixes for moved Exceptions.  
\*  
\* Revision 1.10 1998/11/16 14:24:51 silvano  
\* fixed a javadoc comment  
\*  
\* Revision 1.9 1998/11/13 15:54:05 vera  
\* Cleanup.  
\*  
\* Revision 1.8 1998/11/12 16:14:30 vera  
\* Cleanup.  
\*  
\* Revision 1.7 1998/10/27 11:56:20 silvano  
\* made sure view changes are not buffered to avoid race conditions  
\* (PR#161283)  
\*  
\* Revision 1.6 1998/10/26 14:07:54 silvano  
\* implemented event queue optimization  
\*  
\* Revision 1.5 1998/10/14 14:38:35 tom  
\* Javadoc comments reformatted.  
\*  
\* Revision 1.4 1998/09/16 07:44:24 silvano  
\* Implemented optimized Log operations that take an argument list  
\*  
\* Revision 1.3 1998/09/15 12:04:14 silvano  
\* added normalizeURL call  
\*  
\* Revision 1.2 1998/09/14 13:46:10 silvano  
\* ported to new API  
\*  
\* Revision 1.1 1998/09/11 13:27:30 silvano  
\* integrated Silvano's 0.5 work  
\*  
\* Revision 1.1 1998/08/31 13:39:10 tom  
\* API and iBus core integration; Header; Footer  
\*  
\*/

**[5] FRAG.java**

Revision 1.13, Tue Dec 15 12:27:57 1998 UTC (5 years, 3 months ago) by *silvano* Branch: MAIN

```
/*
 * $Id: FRAG.java,v 1.13 1998/12/15 12:27:57 silvano Exp $
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 *
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 * disclose such Confidential Information and shall use it only
 * in accordance with the terms of the license agreement you
 * entered into with Softwired AG.
 */
```

**[CODE]**

```
/*
 * $Log: FRAG.java,v $
 * Revision 1.13 1998/12/15 12:27:57 silvano
 * Implemented MessageEvent.outDataStream and inDataStream. Proto objects
 * beneath FRAG can use those accessors to avoid considering the extra
 * information added by ObjectOutputStream. (PR#161308)
 *
 * Revision 1.12 1998/12/15 09:17:38 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.11 1998/12/14 07:42:55 silvano
 * made sure that dnPush calls by several threads to the same channel
 * do not garble up the fragments. Implemented channelLocks_ (PR#161359)
 *
 * Revision 1.10 1998/11/19 13:49:26 tom
 * Javadoc Review.
 *
 * Revision 1.9 1998/11/17 10:09:10 tom
 * Small fixes for moved Exceptions.
 *
 * Revision 1.8 1998/11/16 15:52:58 vera
 * Cleanup.
 *
 * Revision 1.7 1998/10/26 08:01:55 silvano
 * revised message header writing and size computation
 *
 * Revision 1.6 1998/10/15 12:15:12 tom
 * Changed F* tags idoc compliant.
 *
 * Revision 1.5 1998/10/14 14:38:38 tom
 * Javadoc comments reformatted.
 *
 * Revision 1.4 1998/09/22 15:38:32 silvano
 * performance optimization of Log calls
 *
 * Revision 1.3 1998/09/17 08:14:07 silvano
 * senderQueues_ to contain Hashtables of <destinationURL/senderQueue> entries,
 * to avoid having to call toString() on senderURL to create a key.
 *
 * Revision 1.2 1998/09/16 07:44:26 silvano
 * Implemented optimized Log operations that take an argument list
 *
 * Revision 1.1 1998/09/11 13:27:31 silvano
 * integrated Silvano's 0.5 work
 *
 * Revision 1.1 1998/08/31 13:39:10 tom
 * API and iBus core integration; Header; Footer
 */
```

**[6] FIFO.java**

Revision 1.14, Fri Apr 9 16:37:36 1999 UTC (4 years, 11 months ago) by *silvano*  
Branch: MAIN

^

```

* $Id: FIFO.java,v 1.14 1999/04/09 16:37:36 silvano Exp $
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* entered into with Softwired AG.
*/

```

## [CODE]

```

/*
* $Log: FIFO.java,v $
* Revision 1.14 1999/04/09 16:37:36 silvano
* implemented Channel properties (PR#161429).
*
* Revision 1.13 1998/12/15 09:17:37 tom
* log_si public final static now. Jitterbug: 161350
*
* Revision 1.12 1998/11/19 13:49:24 tom
* Javadoc Review.
*
* Revision 1.11 1998/11/18 11:49:00 tom
* Inconsistencies in param tags corrected.
*
* Revision 1.9 1998/11/17 10:09:08 tom
* Small fixes for moved Exceptions.
*
* Revision 1.8 1998/11/16 16:40:24 silvano
* undid getOutOfOrderHi() API change (protected -> public)
*
* Revision 1.7 1998/11/16 15:52:56 vera
* Cleanup.
*
* Revision 1.6 1998/10/14 14:38:36 tom
* Javadoc comments reformatted.
*
* Revision 1.5 1998/09/18 15:21:09 silvano
* fixed a comment
*
* Revision 1.4 1998/09/16 07:44:25 silvano
* Implemented optimized Log operations that take an argument list
*
* Revision 1.3 1998/09/15 12:04:15 silvano
* added normalizeURL call
*
* Revision 1.2 1998/09/14 08:28:20 silvano
* Porting protocol objects to new API
*
* Revision 1.1 1998/09/11 13:27:30 silvano
* integrated Silvano's 0.5 work
*
* Revision 1.1 1998/08/31 13:39:10 tom
* API and iBus core integration; Header; Footer
*/

```

**[7] NAK.java**

Revision 1.42, Thu May 6 14:27:06 1999 UTC (4 years, 10 months ago) by *silvano*  
Branch: MAIN

```
/*
 * $Id: NAK.java,v 1.42 1999/05/06 14:27:06 silvano Exp $
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 */
```

**[CODE]**

```
/*
 * $Log: NAK.java,v $
 * Revision 1.42 1999/05/06 14:27:06 silvano
 * Fixed javadoc @see tags for javadoc 1.2.
 *
 * Revision 1.41 1999/04/09 16:37:40 silvano
 * implemented Channel properties (PR#161429).
 *
 * Revision 1.40 1999/03/10 17:36:26 tom
 * Initial move from PropertyHelper to new Config system.
 *
 * Revision 1.39 1999/03/08 13:34:10 silvano
 * moved InetHelper class from internal to util.
 *
 * Revision 1.38 1999/01/08 13:19:44 silvano
 * added call to processEpochEnd
 *
 * Revision 1.37 1999/01/07 16:53:11 silvano
 * minor mods for handling new NREACH heartbeats
 *
 * Revision 1.36 1999/01/06 16:24:16 silvano
 * reimplemented forcing of epoch termination.
 * Now NAK.dnUnregisterTalker sends a HeartbeatEvent to the listeners
 * to force them to ack the epoch.
 *
 * Revision 1.35 1999/01/04 18:00:02 silvano
 * changed dnUnregisterTalker, such that senderInfo is removed in case the
 * stack has a local listener.
 *
 * Revision 1.34 1998/12/22 13:14:08 silvano
 * removed HTML link to NAK.gif. GIF was moved to doc/design/diagrams
 *
 * Revision 1.33 1998/12/15 09:17:42 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.32 1998/11/19 13:49:32 tom
 * Javadoc Review.
 *
 * Revision 1.31 1998/11/18 11:53:14 silvano
 * revised Log.panic() calls
 *
 * Revision 1.30 1998/11/18 10:11:00 silvano
 * edited expectedInitialMsgs javadoc.
 *
 * Revision 1.29 1998/11/18 09:47:52 vera
 * Cleanup.
 *
 * Revision 1.28 1998/11/18 09:08:01 vera
 * Cleanup.
 *
 * Revision 1.27 1998/11/17 13:41:11 vera
 * Cleanup.
 *
 * Revision 1.26 1998/11/17 10:26:51 silvano
 * improved throttling to better cope with slow consumers
 *
 * Revision 1.25 1998/11/17 10:09:15 tom
```

```

* Small fixes for moved Exceptions.
*
* Revision 1.24 1998/11/16 15:53:01 vera
* Cleanup.
*
* Revision 1.23 1998/11/13 15:54:09 vera
* Cleanup.
*
* Revision 1.22 1998/11/12 15:50:25 silvano
* extended dnunregisterTalker to handle cases where outgoing_ is not empty
* but all listeners have left. Necessary for PULL.
*
* Revision 1.21 1998/11/12 14:45:14 vera
* Cleanup.
*
* Revision 1.20 1998/11/12 08:41:32 vera
* Cleanup.
*
* Revision 1.19 1998/11/11 07:48:12 silvano
* fixed two bugs
*
* Revision 1.18 1998/11/10 13:57:50 silvano
* improving flow and congestion control
*
* Revision 1.17 1998/11/05 12:21:01 silvano
* fixed bug in the flow control code
*
* Revision 1.16 1998/11/05 09:55:39 silvano
* improved flow control
* reduced epochsz to 200
*
* Revision 1.15 1998/11/03 16:28:11 silvano
* improved flow control.
* added myrank_ property.
*
* Revision 1.14 1998/10/30 16:59:17 silvano
* added fragment expiration
*
* Revision 1.13 1998/10/26 08:01:58 silvano
* revised message header writing and size computation
*
* Revision 1.12 1998/10/23 12:49:22 silvano
* added lost.setRetransmit(true)
*
* Revision 1.11 1998/10/21 15:12:20 silvano
* added a Thread.yield(); after System.gc() to help GC
*
* Revision 1.10 1998/10/14 14:38:43 tom
* Javadoc comments reformatted.
*
* Revision 1.9 1998/10/13 11:23:41 silvano
* modifications for proper finalization
*
* Revision 1.8 1998/10/12 07:44:28 tom
* Finalization issues mostly resolved. dnTerminate now always calls
* super.dnTerminate. Finalizer added to ProtocolObject.
* No ProtocolObject should have its own finalizer see docu for ProtocolObject.finalize
*
* Revision 1.7 1998/10/02 14:32:06 silvano
* fixed unsubscription bug in send()
*
* Revision 1.6 1998/09/23 07:32:30 silvano
* removed some log_.debug statements
*
* Revision 1.5 1998/09/22 15:38:34 silvano
* performance optimization of Log calls
*
* Revision 1.4 1998/09/17 08:35:34 silvano
* Got rid of ChannelURLFactory import statement
*
* Revision 1.3 1998/09/16 07:44:30 silvano
* Implemented optimized Log operations that take an argument list
*
* Revision 1.2 1998/09/15 13:16:23 silvano
* implemented URL normalization
*
* Revision 1.1 1998/09/11 13:27:33 silvano
* integrated Silvano's 0.5 work
*
* Revision 1.1 1998/08/31 13:39:10 tom
* API and isus core integration; Header; Footer
*
*/

```



**[8] REACH.java**

Revision 1.45, Thu May 6 14:27:10 1999 UTC (4 years, 10 months ago) by *silvano*  
 Branch: MAIN

```
/*
 * $Id: REACH.java,v 1.45 1999/05/06 14:27:10 silvano Exp $
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 */
```

**[CODE]**

```
/*
 * $Log: REACH.java,v $
 * Revision 1.45 1999/05/06 14:27:10 silvano
 * Fixed javadoc @see tags for javadoc 1.2.
 *
 * Revision 1.44 1999/04/23 08:22:41 silvano
 * Fix for bug PR#161448.
 *
 * Revision 1.43 1999/04/09 16:37:44 silvano
 * implemented channel properties (PR#161429).
 *
 * Revision 1.42 1999/03/30 13:36:33 silvano
 * implemented getStackTrace().
 *
 * Revision 1.41 1999/03/10 17:36:29 tom
 * Initial move from PropertyHelper to new Config system.
 *
 * Revision 1.40 1999/03/08 13:34:14 silvano
 * moved InetHelper class from internal to util.
 *
 * Revision 1.39 1999/02/02 10:37:09 silvano
 * fixed bug that lead to message loss
 *
 * Revision 1.38 1999/01/21 13:42:04 silvano
 * fixed minor bug
 *
 * Revision 1.37 1999/01/21 10:30:42 silvano
 * renaming NREACH to REACH
 *
 * Revision 1.36 1999/01/21 09:55:49 silvano
 * renaming REACH to REACH
 *
 * Revision 1.24 1999/01/20 14:20:01 silvano
 * fixed javadoc
 *
 * Revision 1.23 1999/01/20 14:10:42 silvano
 * fixed javadoc
 */
```



**[9] IPMCAST.java**

Revision 1.50, Wed May 5 13:27:47 1999 UTC (4 years, 10 months ago) by *blklly*  
Branch: MAIN

```

/*
 * $Id: IPMCAST.java,v 1.50 1999/05/05 13:27:47 blklly Exp $
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 * entered into with Softwired AG.
 */

```

**[CODE]**

```

/*
 * $Log: IPMCAST.java,v $
 * Revision 1.50 1999/05/05 13:27:47 blklly
 * Fix infinite recursion when publishing log messages by setting publishable
 * = false for IPMCAST logs.
 *
 * Revision 1.49 1999/05/04 11:03:44 blklly
 * Typo in javadoc part.
 *
 * Revision 1.48 1999/04/21 06:17:00 silvano
 * Fixed minor bug that might lead to a warning on socket close.
 *
 * Revision 1.47 1999/04/09 16:37:37 silvano
 * implemented Channel properties (PR#161429).
 *
 * Revision 1.46 1999/03/11 15:43:09 tom
 * Get fBus version using Config.getVersion() method.
 *
 * Revision 1.45 1999/03/10 17:36:25 tom
 * Initial move from PropertyHelper to new Config system.
 *
 * Revision 1.44 1999/03/08 13:34:09 silvano
 * moved InetHelper class from internal to util.
 *
 * Revision 1.43 1998/12/17 14:42:24 silvano
 * extended contents of a Log.warn message
 *
 * Revision 1.42 1998/12/15 14:52:41 silvano
 * dnNormalize uses interface if interface != null and address == null.
 * (PR#161351).
 *
 * Revision 1.41 1998/12/15 12:48:40 silvano
 * moved FIFOQueue from internal to util package.
 *
 * Revision 1.40 1998/12/15 12:27:58 silvano
 * Implemented MessageEvent.outDataStream and inDataStream. Proto objects
 * beneath FRAG can use those accessors to avoid considering the extra
 * information added by ObjectOutputStream. (PR#161308)
 *
 * Revision 1.39 1998/12/15 11:50:06 build
 * Linux JDK bug: MulticastSocket.setInterface throws a SocketException.
 * Made sure IPMCAST_test drivers doesn't panic on Linux.
 *
 * Revision 1.38 1998/12/15 10:35:05 silvano
 * reverted the panics that were changed to warnings.
 *
 * Revision 1.34 1998/12/15 09:17:39 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.33 1998/11/19 13:49:27 tom
 * Javadoc Review.
 *
 * Revision 1.32 1998/11/18 09:59:49 vera
 * Cleanup.
 *
 * Revision 1.31 1998/11/17 10:26:49 silvano
 * improved throttling to better cope with slow consumers
 */

```

\*  
\* Revision 1.30 1998/11/17 10:09:11 tom  
\* Small fixes for moved Exceptions.  
\*  
\* Revision 1.29 1998/11/16 15:52:59 vera  
\* Cleanup.  
\*  
\* Revision 1.28 1998/11/13 15:54:07 vera  
\* Cleanup.  
\*  
\* Revision 1.27 1998/11/12 14:45:12 vera  
\* Cleanup.  
\*  
\* Revision 1.26 1998/11/12 08:41:30 vera  
\* Cleanup.  
\*  
\* Revision 1.25 1998/11/11 16:35:47 silvano  
\* retransmitted message events are not queued any more on overload  
\*  
\* Revision 1.24 1998/11/10 13:57:48 silvano  
\* improving flow and congestion control  
\*  
\* Revision 1.23 1998/11/06 16:56:57 silvano  
\* fixed race condition that occurred during/after dnTerminate  
\*  
\* Revision 1.22 1998/11/06 09:36:57 silvano  
\* fixed dnTerminate bugs  
\*  
\* Revision 1.21 1998/11/03 09:02:45 silvano  
\* implemented message versioning  
\*  
\* Revision 1.20 1998/10/26 14:07:55 silvano  
\* implemented event queue optimization  
\*  
\* Revision 1.19 1998/10/26 08:01:56 silvano  
\* revised message header writing and size computation  
\*  
\* Revision 1.18 1998/10/21 10:49:11 silvano  
\* added call to setSoTimeout(0) for DatagramSockets,  
\* in the hope the InterruptedException on Linux disappears.  
\*  
\* Revision 1.17 1998/10/15 12:27:59 tom  
\* Changed F\* @param tags iDoc compliant.  
\*  
\* Revision 1.16 1998/10/15 12:15:14 tom  
\* Changed F\* tags iDoc compliant.  
\*  
\* Revision 1.15 1998/10/14 14:38:39 tom  
\* Javadoc comments reformatted.  
\*  
\* Revision 1.14 1998/10/13 11:23:44 silvano  
\* modifications for proper finalization  
\*  
\* Revision 1.13 1998/10/12 07:44:26 tom  
\* Finalization issues mostly resolved. dnTerminate now always calls  
\* super.dnTerminate. Finalizer added to ProtocolObject.  
\* No ProtocolObject should have its own finalizer see docu ProtocolObject.finalize  
\*  
\* Revision 1.12 1998/10/07 07:32:24 silvano  
\* undone ALL\_UNICAST related modifications  
\*  
\* Revision 1.11 1998/10/07 07:26:51 silvano  
\* removed ALL\_UNICAST. Modified interface setting code  
\*  
\* Revision 1.10 1998/10/06 10:26:40 silvano  
\* Extended ChannelURL to provide information on whether it is a channel member or not  
\*  
\* Revision 1.9 1998/10/05 16:28:39 silvano  
\* implemented interface setting  
\*  
\* Revision 1.8 1998/10/02 14:32:28 silvano  
\* removed finalizer  
\*  
\* Revision 1.7 1998/09/29 13:39:39 silvano  
\* fixed javadoc tags  
\*  
\* Revision 1.6 1998/09/22 15:38:33 silvano  
\* performance optimization of Log calls  
\*  
\* Revision 1.5 1998/09/18 15:21:50 silvano  
\* implemented thread disposal  
\*  
\* Revision 1.4 1998/09/16 09:00:08 silvano

\* Removed ChannelURLFactory. Implemented util.ChannelURLHelper  
\*  
\* Revision 1.3 1998/09/16 07:44:27 silvano  
\* Implemented optimized Log operations that take an argument list  
\*  
\* Revision 1.2 1998/09/15 13:16:21 silvano  
\* implemented URL normalization  
\*  
\* Revision 1.1 1998/09/11 13:27:31 silvano  
\* integrated Silvano's 0.5 work  
\*  
\* Revision 1.1 1998/08/31 13:39:10 tom  
\* API and iBus core integration; Header; Footer  
\*/

**[10] Channel.java**

Revision 1.65, Mon May 10 12:41:46 1999 UTC (4 years, 10 months ago) by *silvano*

```

/*
 * $Id: Channel.java,v 1.65 1999/05/10 12:41:46 silvano Exp $
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 * in accordance with the terms of the license agreement you
 * entered into with Softwired AG.
 */

[CODE]

/*
 * $Log: Channel.java,v $
 * Revision 1.65 1999/05/10 12:41:46 silvano
 * Added static final long serialVersionUID.
 *
 * Revision 1.64 1999/04/20 15:01:28 b11k11y
 * Fix spelling, add To Do note re finalize() order.
 *
 * Revision 1.63 1999/04/09 16:37:32 silvano
 * implemented Channel properties (PR#161429).
 *
 * Revision 1.62 1999/03/15 15:10:02 silvano
 * fixed bug with multiple subscribers/Repliers using same channel object.
 *
 * Revision 1.61 1999/03/15 14:03:15 silvano
 * minor code cleanup.
 *
 * Revision 1.60 1999/03/12 13:05:54 silvano
 * implemented SignalEvent and SignalEventListener.
 *
 * Revision 1.59 1999/03/10 17:36:13 tom
 * Initial move from PropertyHelper to new Config system.
 *
 * Revision 1.58 1999/03/09 13:43:04 silvano
 * implemented topic reuse across stacks (PR#161403).
 *
 * Revision 1.57 1999/01/21 10:26:28 tom
 * Fixed register(Subscriber(Replier) to allow messages to be received before
 * dnsSubscribe(...) returns. Used by PERS.
 *
 * Revision 1.56 1999/01/20 16:17:28 silvano
 * added property Dictionary to publish and request API
 *
 * Revision 1.55 1998/12/15 09:17:21 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.54 1998/11/19 13:46:57 silvano
 * edited javadoc
 *
 * Revision 1.53 1998/11/19 13:17:37 silvano
 * edited javadoc
 *
 * Revision 1.52 1998/11/18 09:10:45 tom
 * X comments review and panic calls cleanup.
 *
 * Revision 1.51 1998/11/17 13:40:26 vera
 * Cleanup.
 *
 * Revision 1.50 1998/11/17 10:08:12 tom
 * Moved from protocol package up here.
 *
 * Revision 1.49 1998/11/16 16:24:59 tom
 * Serialization updated.
 *
 * Revision 1.48 1998/11/16 15:27:54 tom
 * corrected 'zuero' typo in log msg. Changed log level of that msg to info.
 *
 * Revision 1.47 1998/11/16 13:18:36 tom

```

\* Method equals added.  
\*  
\* Revision 1.46 1998/11/09 15:21:21 tom  
\* Issues from Source code review 2./6.11.1998 corrected.  
\*  
\* Revision 1.45 1998/11/06 16:06:12 vera  
\* Cleanup.  
\*  
\* Revision 1.44 1998/11/06 07:12:59 tom  
\* Added newlines (PropertyHelper.LINE\_SEPARATOR) to error messages.  
\*  
\* Revision 1.43 1998/11/03 16:05:45 vera  
\* Cleanup.  
\*  
\* Revision 1.42 1998/11/03 13:19:13 tom  
\* PROPERTY constant must be fowercase.  
\*  
\* Revision 1.41 1998/11/02 16:18:32 vera  
\* Documentation has been revised.  
\*  
\* Revision 1.40 1998/10/30 13:31:25 martin  
\* Modified Channel.java to always return a non-null value with getChannelURL()  
\*  
\* Revision 1.39 1998/10/30 07:54:24 tom  
\* Serialization implementation; checkpoizbt 1.  
\*  
\* Revision 1.38 1998/10/29 10:07:27 silvano  
\* corrected 'zuero' typo in log msg. Changed log level of that msg to info.  
\*  
\* Revision 1.37 1998/10/21 07:36:15 tom  
\* Channel has no vetoers no more.  
\*  
\* Revision 1.36 1998/10/19 13:04:27 martin  
\* Re-inserted support for "undefined" channel property in Port.java  
\*  
\* Revision 1.35 1998/10/16 09:18:52 tom  
\* Finalization problems localized and quickfixed: panics for producer\_ counter  
\* changed to warnings.  
\*  
\* Revision 1.34 1998/10/15 15:19:16 tom  
\* CommunicationRtException support added.  
\*  
\* Revision 1.33 1998/10/15 12:27:22 tom  
\* Changed F\* @param tags iDoc compliant.  
\*  
\* Revision 1.32 1998/10/15 12:14:29 tom  
\* Changed F\* tags iDoc compliant.  
\*  
\* Revision 1.31 1998/10/15 11:08:46 tom  
\* removeXXXListener did not check for nonexistent helper - fixed.  
\* GNATS: 109795.  
\*  
\* Revision 1.30 1998/10/14 14:37:43 tom  
\* Javadoc comments reformatted.  
\*  
\* Revision 1.29 1998/10/14 09:04:10 tom  
\* dispose() fixed (more to come).  
\*  
\* Revision 1.28 1998/10/14 08:29:01 tom  
\* dispose() added. A good Exception need to be defined for this method.  
\*  
\* Revision 1.27 1998/10/13 12:41:12 tom  
\* UNDEFINED removed (including the initializing method).  
\* GNATS: 109791.  
\*  
\* Revision 1.26 1998/10/13 11:53:47 tom  
\* Registration/Unregistration algos redone to ensure proper bookkeeping.  
\* Docu completed.  
\*  
\* Revision 1.25 1998/10/13 08:20:56 silvano  
\* added getProtocolStack  
\*  
\* Revision 1.24 1998/10/12 07:45:55 tom  
\* All finalization issues resolved.  
\*  
\* Revision 1.23 1998/10/07 13:50:37 tom  
\* More finalizer fixes (and more to come).  
\*  
\* Revision 1.22 1998/10/07 09:37:03 tom  
\* Channel does not store the URL anymore, but asks ChannelImp1 for it.  
\*  
\* Revision 1.21 1998/10/07 06:25:29 tom  
\* Finalization bugs fixed (more to come).

\*  
\* Revision 1.20 1998/10/05 15:37:42 tom  
\* Bug in unregister({Subscriber|Replyer}) fixed.  
\*  
\* Revision 1.19 1998/10/05 06:24:02 martin  
\* Error in comment field fixed  
\*  
\* Revision 1.18 1998/10/03 10:19:12 tom  
\* Add correct handling of pending registrations in setchannelimpl and various  
\* register / unregister and add / remove methods.  
\*  
\* Revision 1.17 1998/10/03 08:57:18 tom  
\* ListenerHelper classes renaming done.  
\*  
\* Revision 1.16 1998/10/03 08:39:36 tom  
\* Complete ViewChange- and LostMessageEvent support added.  
\*  
\* Revision 1.15 1998/10/02 13:54:14 tom  
\* Replaced by ChannelLostMessageEvent and -Listener.  
\*  
\* Revision 1.14 1998/09/30 15:51:04 silvano  
\* fixed null pointer access in finalize  
\*  
\* Revision 1.13 1998/09/30 15:26:25 tom  
\* Support for real ChannelImpl Singleton (second half).  
\*  
\* Revision 1.12 1998/09/30 15:01:33 tom  
\* Support for real ChannelImpl Singleton.  
\*  
\* Revision 1.11 1998/09/30 14:00:54 tom  
\* getchannel() renamed to getChannelURL().  
\*  
\* Revision 1.10 1998/09/30 13:14:53 tom  
\* Request/Reply added.  
\* Minor Bugs fixed.  
\*  
\* Revision 1.9 1998/09/21 14:56:21 silvano  
\* implemented checking of ibus property names  
\*  
\* Revision 1.8 1998/09/18 14:41:13 tom  
\* Cosmetic changes.  
\*  
\* Revision 1.7 1998/09/15 11:21:35 silvano  
\* added a call to normalizeURL for URL normalization  
\*  
\* Revision 1.6 1998/09/14 13:34:35 silvano  
\* The ChannelURL now is overwritten by the normalized one  
\*  
\* Revision 1.5 1998/09/11 13:27:12 silvano  
\* integrated Silvano's 0.5 work  
\*  
\* Revision 1.4 1998/09/09 12:56:46 tom  
\* Intermediate check in.  
\*  
\* Revision 1.3 1998/08/31 13:30:49 tom  
\* API and ibus core intergration; Header; Footer  
\*  
\*/

**[11] ProtocolStackManager.java**

Revision 1.41, Thu May 6 14:52:11 1999 UTC (4 years, 10 months ago) by silvano

```

/*
 * $Id: ProtocolStackManager.java,v 1.41 1999/05/06 14:52:11 silvano Exp $
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 */

```

**[CODE]**

```

/*
 * $Log: ProtocolStackManager.java,v $
 * Revision 1.41 1999/05/06 14:52:11 silvano
 * Fixed javadoc.
 *
 * Revision 1.40 1999/05/06 14:26:53 silvano
 * Fixed javadoc @see tags for javadoc 1.2.
 *
 * Revision 1.39 1999/04/28 13:30:32 blklly
 * Cause stacks to be garbage collected after removeProtocolStack -
 * required a call to ProtocolStack.dispose().
 *
 * Revision 1.38 1999/04/16 07:23:41 silvano
 * Implemented passing of multiple values to fbus.qos.alias.
 *
 * Revision 1.37 1999/04/14 12:48:03 silvano
 * Bug fix in getExpandedQOS.
 *
 * Revision 1.36 1999/04/12 11:51:19 silvano
 * Implemented more graceful handling of malformed URLs.
 *
 * Revision 1.35 1999/03/30 13:36:32 silvano
 * Implemented getStackCache().
 *
 * Revision 1.34 1999/03/18 09:27:33 silvano
 * removed expandQOS because superfluous now.
 *
 * Revision 1.33 1999/03/17 16:27:55 silvano
 * expandQOS now only considers aliases but not named stacks.
 *
 * Revision 1.32 1999/03/17 15:01:21 silvano
 * implemented expansion of qos strings.
 *
 * Revision 1.31 1999/03/15 11:56:10 silvano
 * implemented ProtocolStack.getQOS/setQOS.
 *
 * Revision 1.30 1999/03/10 17:36:18 tom
 * Initial move from PropertyHelper to new Config system.
 *
 * Revision 1.29 1999/03/08 16:01:19 silvano
 * implemented -Dibus.qos.package property (PR#161386).
 *
 * Revision 1.28 1999/01/21 10:30:39 silvano
 * renaming NREACH to REACH
 *
 * Revision 1.27 1999/01/07 16:54:32 silvano
 * Switched from REACH to NREACH
 *
 * Revision 1.26 1998/12/15 09:17:27 tom
 * log_ si public final static now. Jitterbug: 161350
 *
 * Revision 1.25 1998/11/19 13:17:54 silvano
 * edited javadoc
 *
 * Revision 1.24 1998/11/17 13:40:40 vera
 * Cleanup.
 *
 * Revision 1.23 1998/11/16 09:03:38 silvano
 * fixed ALIAS_LOOPBACK setting
 */

```

\*  
\* Revision 1.22 1998/11/11 15:30:24 silvano  
\* fixed log levels  
\*  
\* Revision 1.21 1998/11/11 14:03:43 silvano  
\* converted a panic to a MalformedURLException  
\*  
\* Revision 1.20 1998/11/06 16:06:29 vera  
\* Cleanup.  
\*  
\* Revision 1.19 1998/10/27 13:52:30 silvano  
\* defined "loopback" alias  
\*  
\* Revision 1.18 1998/10/15 11:30:58 tom  
\* Javadoc generation without errors.  
\*  
\* Revision 1.17 1998/10/14 14:37:55 tom  
\* Javadoc comments reformatted.  
\*  
\* Revision 1.16 1998/10/13 15:55:18 silvano  
\* added warn message  
\*  
\* Revision 1.15 1998/10/13 07:33:45 tom  
\* Support for correct handling of TOPless aliases added.  
\*  
\* Revision 1.14 1998/10/05 10:46:12 silvano  
\* added log\_junk calls  
\*  
\* Revision 1.13 1998/10/02 14:29:25 silvano  
\* fixed argument parsing bug  
\*  
\* Revision 1.12 1998/10/02 12:06:04 silvano  
\* fixed protocol argument parsing bug  
\*  
\* Revision 1.11 1998/09/23 08:08:06 silvano  
\* fixed javadoc tags  
\*  
\* Revision 1.10 1998/09/21 14:58:16 silvano  
\* Implemented creating, resolving and removing stack aliases and named stacks.  
\*  
\* Revision 1.9 1998/09/18 15:20:17 silvano  
\* implemented stack caching  
\*  
\* Revision 1.8 1998/09/17 08:34:56 silvano  
\* Implemented QOS parsing and protocol stack loading  
\*  
\* Revision 1.7 1998/09/14 13:37:46 silvano  
\* Fixed compile error  
\*  
\* Revision 1.6 1998/09/14 12:54:28 tom  
\* Intermediate checkin.  
\*  
\* Revision 1.5 1998/09/13 16:05:57 tom  
\* Intermediate check in.  
\*  
\* Revision 1.4 1998/09/11 15:25:46 tom  
\* Weekend checkin.  
\*  
\* Revision 1.3 1998/09/11 13:27:17 silvano  
\* integrated Silvano's 0.5 work  
\*  
\* Revision 1.2 1998/09/09 12:56:51 tom  
\* Intermediate check in.  
\*  
\* Revision 1.1 1998/09/07 08:27:54 tom  
\* Incarnation of a new class.  
\*  
\* Revision 1.1 1998/09/04 07:10:51 tom  
\* Initial check in.  
\*  
\*/